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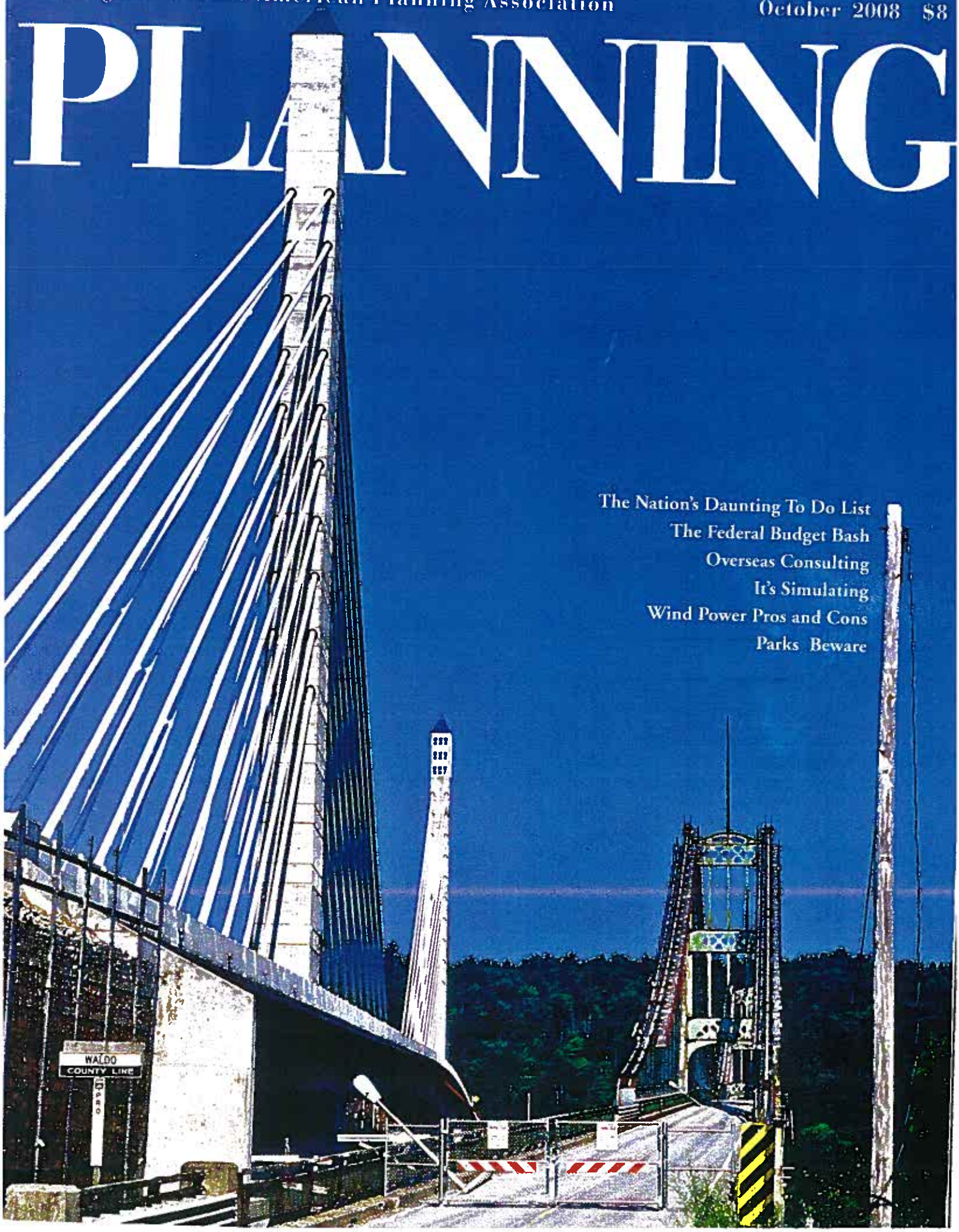
PLANNING

The Nation's Daunting To Do List
The Federal Budget Bash
Overseas Consulting
It's Simulating
Wind Power Pros and Cons
Parks Beware



Planning October 2008

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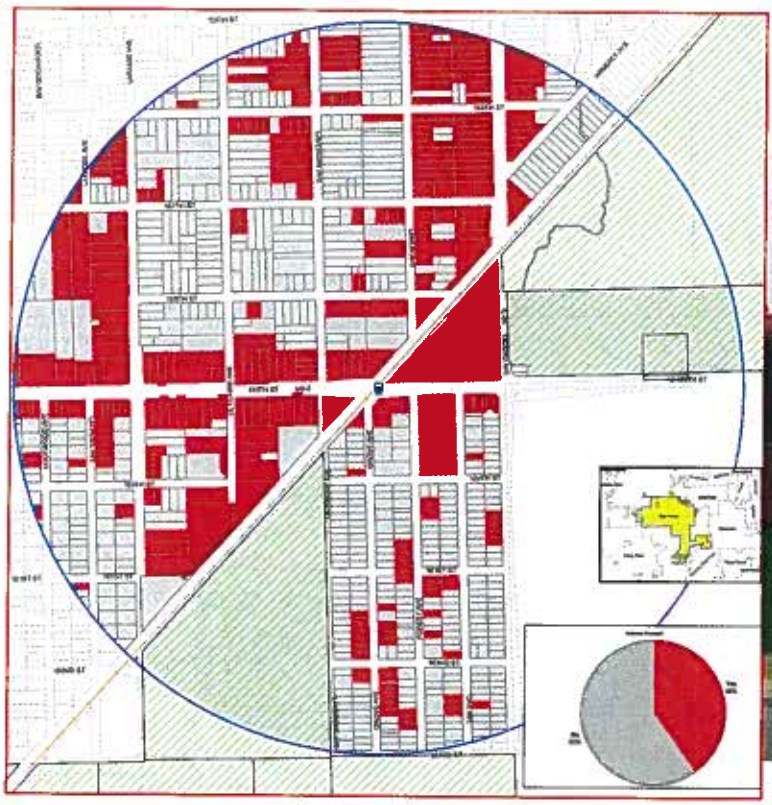
High-tech tools are helping neighborhood planning efforts in the Chicago area.

By Sef Okoth



Coming

Advancements in information technology have ushered in a new era of data democracy by making it easier to distribute large quantities of data to widely dispersed users. Using parcel-based data, GIS, and the Internet, planners and local groups are transforming the practice of community development.

One organization that has embraced new technology is the Chicago Metropolitan Agency for Planning (CMAP), the regional planning agency for the seven-county Chicago region of northeastern Illinois. It supports local planning efforts by offering tools, expertise, and replicable models for the communities in the area—with help from a project called Full Circle.

Community tool

The Full Circle community planning and mapping project was developed by the Northeastern Illinois Planning Commission, which merged with the Chicago Area Transit Study in 2007 to form CMAP. The project has been helping communities plan for the future by putting technology literally in the hands of residents across the Chicago region. Different communities are using wireless devices and cutting-edge Internet tools to create shared visions for future development.

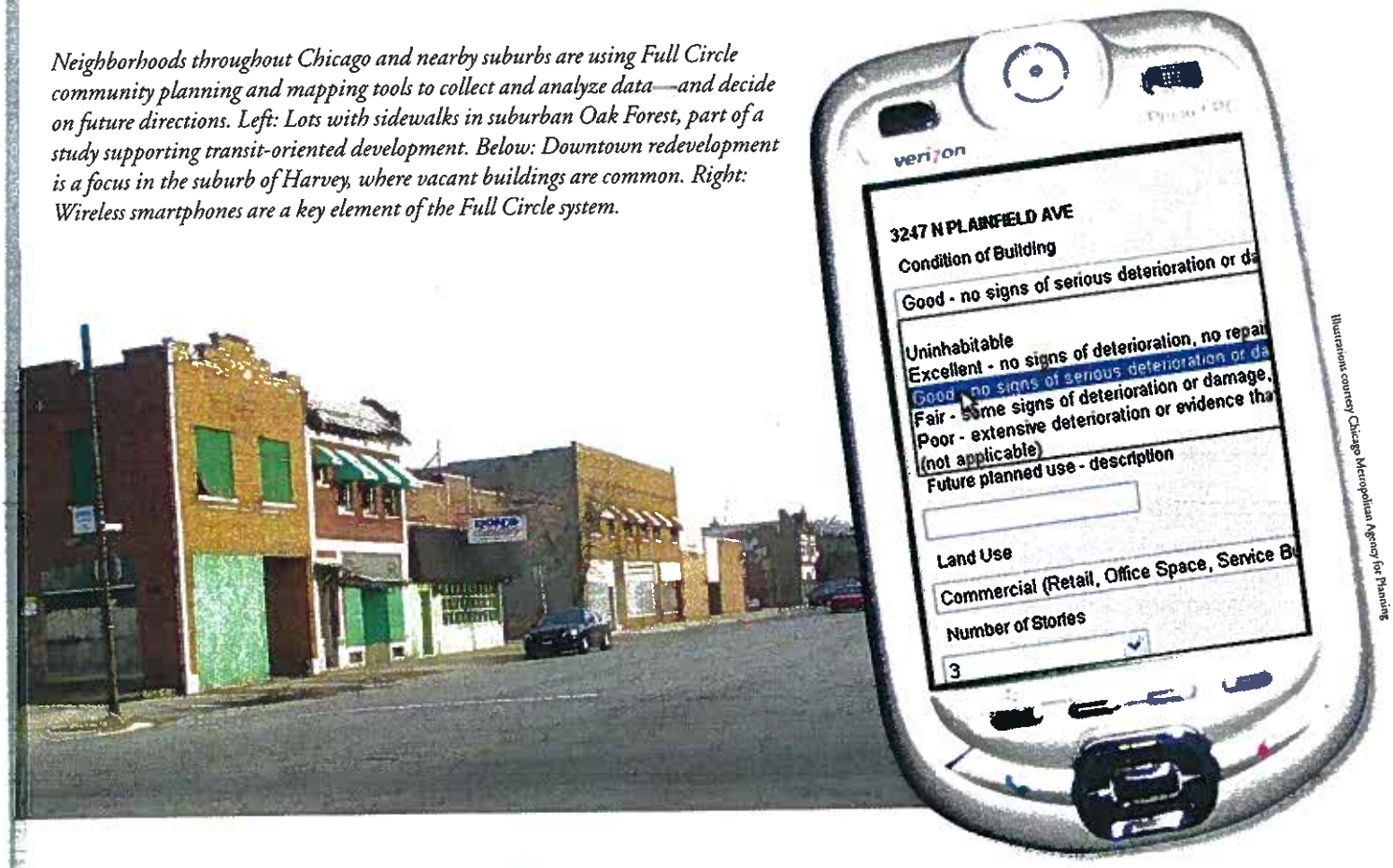
The project was launched in the spring of 2004 with the active participation of seven community-based organizations selected through an RFQ process. Between 2005 and 2006, six more organizations were added with support from the MacArthur Foundation under the umbrella of the Local Initiatives Support Corporation's New Communities Program.

Full Circle now involves more than 40 partners working in 50 of the 77 community areas in the city of Chicago, plus seven suburban municipalities in southern Cook County. Pilot projects are under way in outlying McHenry and Will counties as well.

The project has three main objectives: to ensure that neighborhood concerns are fully articulated within the larger public planning process; to give local residents access to the best planning tools and processes; and to establish mechanisms for continuous exchange of data, ideas, goals, and intentions between community residents, local groups, policy makers, and planners. Full Circle provides developers, organizations, and communities with real-time, parcel-level data along with the tools and resources needed to analyze, manipulate, and display the information.

Funding for Full Circle is provided by a

Neighborhoods throughout Chicago and nearby suburbs are using Full Circle community planning and mapping tools to collect and analyze data—and decide on future directions. Left: Lots with sidewalks in suburban Oak Forest, part of a study supporting transit-oriented development. Below: Downtown redevelopment is a focus in the suburb of Harvey, where vacant buildings are common. Right: Wireless smartphones are a key element of the Full Circle system.



Illustrations courtesy Chicago Metropolitan Agency for Planning

Full Circle

$675,000 grant from the U.S. Department of Commerce under its Technology Opportunities Program as well as additional support from the MacArthur Foundation and the Illinois Department of Commerce and Economic Opportunities.

Core components

Full Circle has several core components. One is an online mapping system designed for wireless handheld data devices (but accessible from any web browser), dispersed throughout the region and connected to CMAP's web servers for seamless mapping, data collection, and data retrieval. Another is face-to-face participatory planning sessions, where local residents and neighborhood leaders can express their goals, concerns, and ideas about the future of their communities.

This combination of cutting-edge technology and the commitment to community-level participatory planning is what makes Full Circle such a powerful model.

A core value of the project is that good planning requires input from the community—in other words, good information from neighborhood stakeholders—as well as public data. Since future development depends partly on today's assets, identifying resources of all kinds is crucial to the community development process.

The technology

Wireless smartphones are a key element of the system. They are used to capture data in the field and then transfer it to a central repository hosted at CMAP. Smartphones are not PDAs (personal digital assistants), but rather pocket PCs connected to the Internet. The smartphones operate on Evolution-Data Optimized (EVDO) technology, which is a cellular network for transmitting data using broadband Internet access. The system employs ArcIMS web-mapping technology, which allows users with smartphones or any tool with Internet access to display maps of the information being collected.

Because the smartphones use the ubiquitous cell network, data collection is not limited to wireless hot spots—which are often nonexistent in low-income neighborhoods and rural communities. In addition, no docking is needed—a significant advantage over PDA data collection used by other applications.

Users can pull up and monitor dozens of variables for any property or business using Parcel Pointer, a web-based GIS tool that CMAP has created to enable local planning agencies to track important parcel attributes. Data collec-

tion uses wireless, handheld devices for real-time input to a central server that is accessible from any web browser, with seamless mapping and data retrieval.

Parcel Pointer can track land use, zoning, the age of structures, property values, historical significance, employment data, and environmental factors, among other variables.

Parcel Pointer supports public, survey, and observational data—the latter consisting of information gathered by individual users in the field. The system is fully extensible, meaning that users can work with CMAP to develop new modules (customized surveys) for their projects.

Other participants often adopt existing modules instead of creating their own. For example, a module for inventorying fresh produce in grocery stores was created for the Logan Square Neighborhood Association. That same module was later adopted by several organizations to survey grocery stores in their neighborhoods. Surveys of historic structures, health clinics, and social service providers have been developed for specific organizations and later adapted for use by other organizations.

Local data collection is important for several reasons. First, local organizations are often interested in data that are not available from public sources. Second, public data can quickly become outdated in transitional neighborhoods where gentrification, abandonment, or demographic shifts are rapidly occurring. And finally, this approach allows local organizations, given the right tools, to take ownership of data collection in their neighborhoods in a way that large, centralized public agencies cannot.

Web-based data collection lets multiple participants update the system simultaneously and in real time. With the Parcel Pointer system, their input is available instantaneously to other authorized users through the Internet. Each participating organization is assigned a set of passwords that they can allocate as needed. This enables them to track whoever is entering or retrieving information from the system as well as the time and date.

Locally derived data and information from public sources—such as the county assessor's office, municipal planning departments, and the county recorder's office—can be displayed as maps, reports, or charts. Using this system, a community group could view a map of "retail-grocery" parcels in their neighborhood, a list of sold properties and their sales prices, a map showing the location of health clinics, or any number of other qualities.

The online neighborhood maps are interactive, allowing zoom-in, zoom-out, and pan functions, and they serve as parcel locators. Clicking on a particular parcel brings up both existing data for the selected parcel and a data entry screen for updates.

Because neighborhood maps are not easily displayed on handheld devices, the system includes an address finder in the form of a dropdown menu that enables users to see a list of properties in a particular neighborhood. Full Circle data entry forms are flexible, allowing different organizations to view only the data they want to see.

Not all participants collect and use the same types of data, and while the majority of participants share their data, that isn't a program requirement. The system allows users to limit access to the information they collect.

Steps in the system

Participants may use the mapping tool for a variety of projects—from identifying the location of social service providers, to tracking employer attitudes and hiring practices, to developing full-scale area plans. Typically, four steps are involved in creating a plan using the Full Circle system.

A neighborhood inventory comes first. This is a detailed inventory of land use, housing, transportation, jobs, culture, recreation, natural resources, and historic structures, all compiled by project partners through smartphones or paper surveys. Maps, reports, and statistics are then generated from the information collected. This enables participants to determine existing conditions in their neighborhoods. The emphasis is on what is available in the community without paying much attention to its significance.

The second step is drilling down to identify neighborhood assets—both tangible and intangible. Here, the focus is on what can be leveraged to benefit the community. These are catalogued using smartphones or other Internet tools. Assets might include parks and playgrounds, local employers, transit stations, vacant parcels, historical sites, cultural treasures, longtime residents with knowledge of the community's history, and youth groups. Asset mapping is usually guided by principles developed by the Asset-Based Community Development Institute at Northwestern University.

Participatory planning is step three. This involves setting goals, evaluating priorities, building consensus, and evaluating alternative scenarios that are aligned with the interests of local residents. The emphasis is on engaging stakeholders in creating a shared vision of the future.

After a plan is final, CMAP works with its community partners, local governments, and other community stakeholders to realize the plan.

Ideally, participants should follow these four steps. In reality, however, many participants follow only some of these steps. Participants may use the system to gather data for informational purposes without necessarily following through with the planning process. For example, the Little Village Environmental Justice Organization and the Southeast Environmental Task Force—environmental advocacy groups—only used the system to map toxic sites in certain neighborhoods so they could increase community awareness.

It's flexible

Unlike other mapping applications, which are developed to serve a particular purpose, the Full Circle toolset is quite flexible and has been used to address a wide variety of community development challenges. These include:

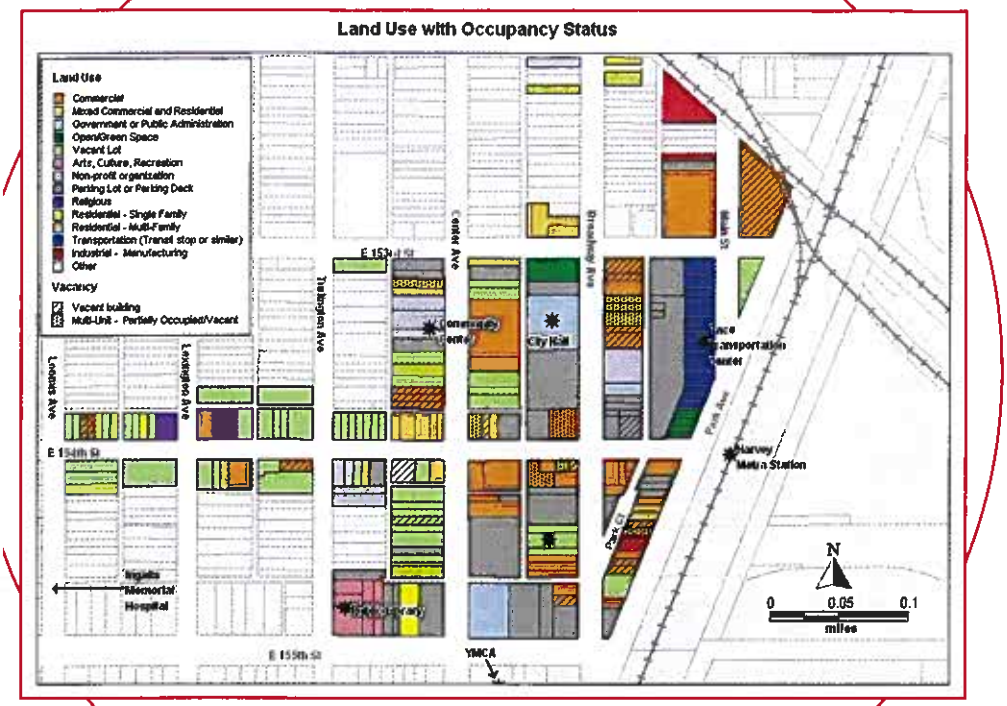
- Inventory: What economic assets, infrastructure, and amenities can be leveraged for economic development, public safety, or health?
- Change detection over time: What new developments are occurring and how are the data changing over time?
- Public mood assessment: How do people feel about the current situation or the future?
- Predictive analytics: How might policy decisions impact the current or future situation?
- Decision support and planning: Map out priority areas, opportunities, and reveal red flags.

Full Circle has many practical applications. These include planning for economic development and transit-oriented development, the revitalization of commercial districts and corridors, and freight infrastructure; informing decisions about land acquisition; redeveloping model blocks in neighborhoods targeted for revitalization; improving coordination of programs and services in low-income communities; identifying

Resources

Online. Learn more about Full Circle at www.fulcir.net. The Full Circle Best Practice Guide to Community Mapping is at www.cmap.illinois.gov/uploadedfiles/FC_Best_Practices_8-14-08.pdf.

The Chicago Metropolitan Agency for Planning's website is www.cmap.illinois.gov. The Asset-Based Community Development Institute at www.cmap.illinois.gov. Northwestern University is at www.sesp.northwestern.edu/abcd. The Local Initiatives Support Corporation is at www.lisc.org.



The downtown plan created in Harvey calls for better links between the city's transportation center and surrounding areas. Surveys—and maps—of existing structures and their occupancy status became the raw materials for the plan.

properties at risk of foreclosure; tracking loss of affordable rental housing; and supporting community and block-club organizing.

Putting it to use

In the city of Blue Island, a suburb south of Chicago, the system was used to support the revitalization of the city's declining main street by encouraging transit-oriented development around the transit stop. The city collaborated with several agencies to obtain both public and local data for the project.

Blue Island's project consisted of a visual survey of the main street, interviews with business owners, and a thorough interior survey of downtown businesses. The survey tracked building conditions, facades, traffic design, and other issues that could affect the corridor's vitality. Data were combined with information from various city departments to create a comprehensive business directory and a development database that the city now uses to respond to inquiries from prospective investors and developers.

In conducting the survey, the city found some streetscape design and safety issues that could hamper the drive-by feel of the main street. It also identified historical structures that were vital to the city's traditional character.

In Oak Forest, another Chicago suburb, Full Circle data helped with transit-oriented development around the municipality's commuter rail station. Local businesses were surveyed in an effort to bolster retention. And the city reviewed signage on local businesses for compliance with a new sign ordinance.

Full Circle tools were used for an assessment of existing structures, land use, residential densities, and other community characteristics. The information was used to identify residential and retail opportunities around the transit stop, update the city's comprehensive plan, and create a database of the city's commercial properties.

In the suburb of Harvey, Full Circle helped with the creation of a downtown redevelopment plan that sought to integrate the city's transportation center with surrounding land uses, attract new businesses, and encourage effective reuse of vacant properties, which were all too common in downtown. The data also were used to create design guidelines for a proposed downtown overlay district.

In Chicago's Uptown neighborhood, it helped to support comprehensive planning of commercial corridors and identify and understand employers' hiring practices. Local organizations used the information to improve job training and placement programs and to educate local residents about the changes taking place in the community.

In the Chicago Lawn neighborhood, the Greater Southwest Development Corporation used the system to implement the LISC New Communities housing initiative, aimed at preserving affordable housing, and to help home owners participate in the Chicago historic bungalow certification program. Several hundred bungalows were subsequently certified for housing preservation.

It's user friendly

Users do not need GIS software on their computers to access data on the Full Circle system. Any Internet-enabled computer can call up the maps or data entry screens. In addition, multiple users can simultaneously update various parts of the database. Because the data always enter the system through a single portal, only one copy of the data exists at any time.

Full Circle provides public information on individual properties such as land value, ownership, zoning, tax liens, and vacancy status, all of which is crucial for understanding how the community is changing over time. Before Full Circle existed, it was expensive and time-consuming to gather information from multiple government offices—even if data were available in digital form.

Through Full Circle, participants have access to resources they couldn't otherwise afford. These include smartphones, real-time database querying capabilities, completely adaptable GIS maps, and a seemingly inexhaustible server to store the data.

The system now directly integrates several types of data into a single automated database. These include the Cook County tax assessor's cadastral records (property data linked to a map indicating property boundaries), and data from the recorder of deeds, the city of Chicago's housing department, and other public entities. Any authorized person with a web browser can find that information.

Full Circle tools have bridged the gap between planners and the public by giving community development specialists greater access to detailed property data that are vital for monitoring neighborhood changes.

Now efforts are under way to integrate Full Circle data into Google Earth. A successful pilot involving data from a grocery store survey has been done using 3-D SketchUp renderings of portions of Chicago's Logan Square neighborhood. And, as data continue to be captured and integrated into an already rich collection, who knows what could be next for Full Circle and its partners?

Sef Okoth is a community and technical assistance planner with the Chicago Metropolitan Agency for Planning. He is the project manager for Full Circle.